



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,112	01/20/2004	Ernst Affeldt	038741.53144US	6929

23911 7590 12/28/2005  
CROWELL & MORING LLP  
INTELLECTUAL PROPERTY GROUP  
P.O. BOX 14300  
WASHINGTON, DC 20044-4300

EXAMINER

KOEHLER, ROBERT R

ART UNIT PAPER NUMBER

1775

DATE MAILED: 12/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/759,112

Applicant(s)

AFFELDT ET AL.

Examiner

Robert R. Koehler

Art Unit

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on October 7, 2005 (Amdt. & Remarks).
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-29,31-46 and 48-59 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29,31-46 and 48-59 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

*RRK*  
*12-21-05*

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

Art Unit: 1775

## **DETAILED ACTION**

### ***Claim Objections***

Claim 48 is objected to because of the following informalities: Claim 48 (Original) is still dependent from claim 47, now cancelled. The Examiner believes that claim 48 should be dependent from independent claim 42. Appropriate correction is required.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1 to 29, 31 to 46, and 48 to 59 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Evaluations of the level of ordinary skill in the art requires consideration of such factors as various prior art approaches, types of problems encountered in the art, rapidity with which innovations are made, sophistication of technology involved, educational background of those actively working in the field, commercial success, and failure of others.

The "person having ordinary skill" in this art has the capability of understanding the scientific and engineering principles applicable to the claimed invention. The evidence of record including the references and/or admissions are considered to reasonably reflect this level of skill.

Art Unit: 1775

Claims 1 to 29, 31 to 46, and 48 to 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,066,405 (Schaeffer), the cited prior art of record.

Schaeffer teaches a nickel-base superalloy substrate having an optimized platinum-aluminum diffused coating. The process of producing a diffused platinum-aluminum coating includes the steps of providing a nickel-base substrate (for example, a gas turbine component), depositing a platinum layer on the substrate, diffusing the platinum into the substrate, providing a source of aluminum, and diffusing the aluminum into the substrate. See Figure 3. Schaeffer states that the optimized platinum-aluminum diffusion coating contains at least 18 weight percent platinum and at least 18 weight percent aluminum, the balance of the coating composition being interdiffused components of the substrate (for example, nickel and chromium). Schaeffer teaches that the platinum, aluminum, and nickel concentrations in the coating region vary with the depth of the coating, and the specific compositions of surface regions are measured by an integration method. See line 13 in column 4 to line 7 in column 6. Therefore, according to the teaching by Schaeffer regarding the measurement of specific compositions at various locations within a platinum-aluminum diffusion coating, it would be quite possible to optimize the coating process conditions for the purpose of obtaining particular platinum concentration profiles and aluminum concentration profiles at the surface of a substrate and within the platinum-aluminum diffusion coating. Also, the Examiner understands that applicants' claims require less than 18 weight percent of platinum and/or aluminum in the substrate surface region (for example, see claim 1), but the diffusion coating techniques utilized by Schaeffer will produce the same, lower platinum concentration and/or lower aluminum concentration within the diffusion coating being claimed by the applicants.

Schaeffer differs from the claims in that Schaeffer does not specify the particular platinum concentration profiles and aluminum concentration profiles that are possible at the surface of a substrate and within the platinum-aluminum diffusion coating.

Art Unit: 1775

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have *optimized* the coating process conditions set forth by Schaeffer to such a degree or extent that particular platinum concentration profiles and particular aluminum concentration profiles are generated on a superalloy substrate when a platinum-aluminum diffusion coating is produced because Schaeffer provides sufficient information about the useful process techniques and process conditions which can be controlled in the production of a platinum-aluminum diffusion coating. A person skilled in the art of diffusion metal coating systems would have been motivated to rely on Schaeffer because a result-effective variable (such as diffusion coating conditions and the amounts of platinum and aluminum in contact with a superalloy substrate) *can be optimized* by a skilled person in order to achieve a recognized result (such as particular platinum concentration profiles and particular aluminum concentration profiles at the substrate surface and in the platinum-aluminum diffusion coating). See *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical.

### ***Conclusion***

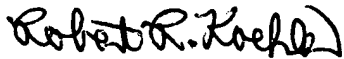
Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Robert Koehler whose telephone number is **(571) 272-1536**. The Examiner can normally be reached on Tuesday to Friday from 9:30 AM to 7:00 PM. The Examiner can also be reached on alternate Mondays.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Deborah Jones, can be reached on **(571) 272-1535**. The official Fax No. is **(571) 273-8300**, and the After-Final Fax No. is **(571) 273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published

Art Unit: 1775

applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at **866-217-9197** (toll-free).



**ROBERT R. KOEHLER**  
**PRIMARY EXAMINER**

**Art Unit 1775**  
**December 21, 2005**